

ABSTRACT OF THE DISCLOSURE

5 A process provides a ceramic film, such as a mesoporous silica film, on a substrate, such as a silicon wafer. The process includes preparing a film-forming fluid containing a ceramic precursor, a catalyst, a surfactant and a solvent, depositing the film-forming fluid on the substrate, and removing the solvent from the film-forming fluid on the substrate to produce the ceramic film on the substrate. The ceramic film has a
10 dielectric constant below 2.3, a halide content of less than 1 ppm and a metal content of less than 500 ppm, making it useful for current and future microelectronics applications.

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